

**BEFORE
THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA
DOCKET NO. 2019-184-E**

IN RE: South Carolina Energy Freedom Act)	
(H.3659) Proceeding to Establish)	
Dominion Energy South Carolina,)	
Incorporated's Standard Offer, Avoided)	
Cost Methodologies, Form Contract)	INTERVENOR, SOUTH CAROLINA
Power Purchase Agreements,)	SOLAR BUSINESS ALLIANCE, INC.'S
Commitment to Sell Forms, and Any)	THIRD INTERROGATORIES AND
Other Terms or Conditions Necessary)	REQUESTS FOR PRODUCTION
(Includes Small Power Producers as)	
Defined in 16 United States Code 796, as)	
Amended) - S.C. Code Ann. Section 58-)	
41-20(A))	

Intervenor South Carolina Solar Business Alliance, Inc. ("SBA"), pursuant to Reg. 103-833 and S.C. Code Ann. § 58-41-20(J), which requires that "Each electrical utility's avoided cost filing must be reasonably transparent so that underlying assumptions, data, and results can be independently reviewed and verified by the parties and the commission," hereby serves Dominion Energy South Carolina, Inc. ("DESC") with SBA's Third Interrogatories and Requests for Production, to be answered separately within twenty (20) days from the date of service hereof. Please set forth DESC's answers separately, after restating the question.

These Interrogatories and Request for Production shall be deemed continuing, and if complete production to any of them is not presently available, and the information becomes available before trial, supplemental production is required at such time as this information becomes available to Plaintiff.

INSTRUCTIONS

1. All information shall be provided to the undersigned in the format as requested.
2. All responses to the below Interrogatories and Requests for Production shall be labeled using the same numbers as used herein.

3. If the requested information is found in other places or in other exhibits, reference shall not be made to those, but, instead, the information shall be reproduced and placed in the responses to these Requests for Production in the appropriate sequence.

4. Any inquiries or communication relating to questions concerning clarifications of the data requested below shall be directed to the undersigned.

5. All exhibits shall be reduced to an 8 1/2" x 11" format.

6. Each Request shall be reproduced at the beginning of the response thereto.

7. DESC shall provide the undersigned with responses to these Interrogatories and Requests for Production as soon as possible but **not later than twenty (20) days from the date of service hereof.**

8. If the response to any Requests for Production is that the information requested is not currently available, please state when the information requested will become available.

9. These Interrogatories and Requests for Production shall be deemed continuing so as to require DESC to supplement or amend its responses as any additional information becomes available up to and through the date of trial.

10. If a privilege not to answer a Request is claimed, identify each matter as to which the privilege is claimed, the nature of the privilege, and the legal and factual basis for each such claim.

11. If a refusal to respond to a Request is based on the grounds that same would be unduly burdensome, identify the number and nature of documents needed to be searched, the location of the documents, and the number of hours and costs required to conduct the search.

12. Answer each Request on the basis of the entire knowledge of DESC, including information in the possession of DESC or its consultants, representatives, agents, experts, operating divisions, business divisions, assigns, partners, and attorneys, if any.

13. If any Request cannot be answered in full, respond to the extent possible and specify the reasons for DESC's inability to produce.

14. Please provide copies of the information responsive to this request in native electronic working format with all data and formulas intact.

DEFINITIONS

As used herein, the following terms shall have the meaning and be interpreted as set forth below:

1. "You" or "your" shall refer to DESC, or affiliate, any agent, employee, official, or consultant thereof.

2. The conjunctions "and" and "or" shall be interpreted in each and every instance as meaning "and/or" and shall in neither instance be interpreted disjunctively to exclude any document or information otherwise within the scope of any description or request made herein.

3. "Avoided Cost," "Avoided Cost Rates," "Avoided Cost Methodology," and "Avoided Cost Calculations" shall have the meanings assigned to them under S.C. Code Ann. §§ 58-41-10 and 58-41-20, and shall include without limitation avoided energy, avoided capacity, and the cost of ancillary services produced or consumed by small power producers as provided in S.C. Code Ann. § 58-41-20(B)(3).

4. "Document" shall mean all originals of any nature whatsoever, identical copies and all non-identical copies thereof, pertaining to any medium upon which intelligence or information is recorded in DESC's possession, custody or control, or other tangible objects regardless of where located; including, without limiting the generality of foregoing, punch cards,

print-out sheets, movie film, slides, photographs, records, work papers, source documents, microfilm, notes, letters, memoranda, ledgers, worksheets, books, magazines, notebooks, diaries, calendars, appointment book registers, charts, cable, papers, agreements, contracts, purchase orders, acknowledgements, invoices, authorizations, budgets, analyses, projections, transcripts, minutes of meeting of any kind, correspondence, telegrams, drafts, data processing disks or tapes, or computer-produced interpretations thereof, instructions, announcements, schedules, and price list. Media includes data on computers, laptop computers, netbook computers, cell phones, telephones, PDA's, Blackberry's or Blackberry type devices, smart phones, external hard drives and flash drives or storage devices of any type, of DESC and specifically includes the computer and or laptop computers utilized by Representatives of DESC. Media means media, as broadly as the term "media" may be defined, that contains electronic data, as to the Interaction between SBA and DESC.

5. "Identify" or "identity" used with reference to an individual means to state his or her full name, present or last known address, present or last known position and business affiliation, and employer, title, and position at the same time in question.

6. "Identify" or "identity" used with reference to a writing means to state the date, author, type of document (e.g. letter, memorandum, telegram, chart, note, application, etc.) or other means of identification, and its present location or custodian. If any such document is no longer in DESC's possession or subject to their control, state what disposition was made of the document(s).

7. All references to the singular contained herein shall be deemed to include the appropriate plural number and all references to the plural shall be deemed to include the singular.

All references to the masculine gender contained herein shall be deemed to include the appropriate feminine and neuter genders.

INTERROGATORIES

1. Please explain Your rationale for dividing proposed avoided energy costs into two groups of five years (2020-2024 and 2025-2029).
2. Please explain Your rationale for establishing distinct solar and non-solar avoided cost rates rather than a single technology-neutral avoided cost rate.
3. For each hour over the last calendar year, please provide the total gross MW of power imported to the DESC system.
4. Please refer to Direct Testimony of James W. Neely, p 10 which states: “We observed that additional reserves equal to 35% of the installed solar capacity is sufficient to cover most of the one-hour solar intermittency.”
 - a. Please provide the total amount of actual operating reserves (in MW) held by DESC in each hour of the observed period, and identify which portion of these operating reserves were additional due to installed solar capacity.
 - b. Please describe in detail what is meant by the term “sufficient” in this context, and provide the derivation of the 35% in additional reserves as a percent of installed solar capacity.
 - c. Were these observations based upon modeled or real-world system operations? What was the period over which these observations were conducted?
5. Please refer to Direct Testimony of James W. Neely, p 10 which states, “The avoided cost calculations included in this testimony were modeled with additional reserves equal

to 35% of the installed solar capacity, during solar generating hours. As more solar is added to the DESC system, these percentages may change and the new operating reserve requirements will be reflected in future avoided cost calculations.”

- a. Please explain in detail how the additional reserve costs were incorporated into the avoided costs calculations proposed.
- b. Please explain how the costs associated with new operating reserves described above differ from costs reflected in the proposed Variable Integration Charge.
- c. Please explain whether the Variable Integration Charge is included in the solar, and/or solar plus storage avoided energy cost rates.

6. Please refer to Direct Testimony of James W. Neely, p 11, which states, “The change case for non-solar QFs is derived from the base case by subtracting a 100 MW round-the-clock power purchase profile. The avoided costs are then accumulated into four time-of-use periods.” Please provide the avoided costs for each hour of each year, prior to being accumulated into the four time-of-use periods. Please provide this in MS Excel format.

7. Please refer to Direct Testimony of James W. Neely, p 11, which states, “The change case for solar QFs is derived from the base case by subtracting a 100 MW power purchase modeled after a solar profile.”

- a. Please provide the hourly MW-ac output of the solar profile modeled for the solar QF change case. Please provide this in MS Excel format.
- b. Please specify the type of solar technology (e.g. fixed, tracking) and location for the solar profile.

8. Please refer to Direct Testimony of James W. Neely, p. 12, which states, “Using the resource plan in its latest IRP or an updated resource plan if appropriate, DESC calculates the incremental capital investment related revenue required to support the existing resource plan.”

- a. Please provide the specific resource plan used for the base resource plan.
If this resource plan was different than the “latest IRP,” please identify the differences between the resource plan used and the latest IRP.
- b. Please identify the specific differences between the base resource plan and the change plan.

9. Please refer to Direct Testimony of James W. Neely, p 12, which states, “For non-solar QFs that qualify for the Standard Offer Rate, the avoided capacity cost is \$73.46/MWh, but this value only applies for a limited period of time.”

- a. Please provide the derivation of the \$73.46/MWh value. Please provide all workpapers used to derive this value (in MS Excel format) with formula intact.
- b. Please provide the corresponding avoided capacity cost for a non-solar QF that is 24 MW.

10. Please refer to Direct Testimony of James W. Neely, p 17, which states, “The storage system must initially have a minimum capacity of 15 MW-AC and have the ability to deliver its maximum capacity for four consecutive hours when fully charged. Degradation of the storage system will be specifically addressed in any final contractual arrangements between the provider and DESC. DESC will control the dispatch of the storage.” With regard to these requirements:

- a. Please provide the rationale for requiring a minimum capacity of 15 MW-AC battery capacity.
- b. Please provide the rationale for requiring a four-hour duration for delivery of maximum capacity.
- c. Please provide the rationale for requiring DESC control over dispatch.

11. Please provide a detailed description of the data and information included in the “Avoided_Capacity_-_10_year_ICT_-_081319_CONFIDENTIAL.xlsx” workbook, and how that data and information was used in support of Your avoided cost methodologies and calculations. Please confirm whether this worksheet was used to calculate the avoided capacity rate for Non-Solar QFs. If so, please provide a reference to the specific cell where the specific avoided capacity rate is determined (e.g. \$73.46/MWh). If not, please provide the workpapers that were used to determine this rate.

12. Refer to Exhibit No. MWT-2, p 17, which states, “solar is modeled in PROMOD using a fixed 8760 hourly shape for generation.” Please provide the fixed 8760 hourly shape for solar generation used in PROMOD, and describe how the solar generation shape was developed.

13. Refer to Exhibit No. MWT-2, p vii, Table 3. Please provide the Levelized Cost of holding additional reserves under each of the following modified assumptions:

- a. Cost of power imports is reduced to \$100/MWh (versus \$300/MWh).
- b. Perfect forecasting, that is the forecast is equal to the modeled solar output (instead of a 4 hour-ahead).

14. Refer to Exhibit No. MWT-2, p 19, which states, “To calculate the integration costs of the various mitigation options, PROMOD was ran [sic] with different levels of operating reserves calculated as a mitigation option and the production costs were compared to the

“Business as Usual” (BAU) scenario, which is the PROMOD scenario benchmarked to recent DESC system operation prior to the addition of much of the solar.”

- a. Please provide the level of operating reserves (in MW) committed during each hour of each modeled year in the BAU, Initial Solar, and All Solar scenarios.

15. Refer to Exhibit No. MWT-2, p 19, which states, “The capital costs of the new resources would be added to the total mitigation costs for comparing between the BAU and change scenarios.”

- a. Please identify which change scenarios (if any) included capital costs for new resource additions.
- b. Please provide a derivation of these capital cost and all underlying assumptions.

16. Please refer to Exhibit No. JWN-1, pages 4-6. Please describe in detail the bases for the estimates of construction and operational costs underlying the cost estimates for each resource scenario evaluated.

17. Please explain whether the integration cost calculation includes any capital costs.

18. Please refer to page 23 of Mr. Folsom’s testimony, where it states that “The NOC Form touches upon issues such as site control, delivery periods, and delivery deadlines as these provisions evidence substantial commitment and are important to prevent a developer from gaming the system by locking-in rates for a speculative project.” Please define in detail what is meant by a “speculative project” in this context.

19. Please explain how You intend to comply with DESC’s obligation, agreed to in Section 3(A)(ii) of the Settlement Agreement filed in Commission Docket No. 2017-370-E on

November 30, 2018, that DESC will “During calendar year 2019, file for Commission approval proposed avoided cost rates for energy and capacity that provide accurate pricing for storage as a separate resource; or file for Commission approval proposed technology-neutral avoided cost rates for energy and capacity that provide accurate pricing for dispatchable renewable generating facilities such as solar + storage (e.g., hourly pricing)[.]”

20. Please describe what measures You have taken, or plan to take, since April 30, 2018 to pursue economic demand side management and energy efficiency programs, targeted at reducing the winter peak.

REQUESTS FOR PRODUCTION

1. Please produce all documents and data, including workpapers, related to Your responses to these Requests. Please produce all spreadsheets with formulae intact.

2. Please refer to Direct Testimony of James W. Neely, p. 12 which states, “Using the resource plan in its latest IRP or an updated resource plan if appropriate, DESC calculates the incremental capital investment related revenue required to support the existing resource plan.” Please provide the specific resource plan used for the base resource plan.

3. Please refer to Exhibit No. JWN-1, pages 4-6. Please produce all documents related to the estimates of construction and operational costs underlying the cost estimates for each resource scenario evaluated.

4. Please refer to Direct Testimony of James W. Neely, p 12 which states, “For non-solar QFs that qualify for the Standard Offer Rate, the avoided capacity cost is \$73.46/MWh, but this value only applies for a limited period of time.” Please provide all workpapers used to derive this value (in MS Excel format) with formula intact.

5. Refer to Exhibit No. MWT-2, p 27, which states, “To ensure that the analysis does not overestimate the costs to integrate the All Solar reserves, PROMOD was run with each of these levels of reserves and then the results were blended using the weighted average of costs tied to the number of days that each level of reserves was required.” Please provide the workpapers used to calculate the weighted average cost from the model results as described.

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September 18, 2019
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South Carolina Energy Freedom)
 Act (H.3659) Proceeding to)
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 Standard Offer, Avoided Cost)
 Methodologies, Form Contract)
 Power Purchase Agreements,)
 Commitment to Sell Forms,)
 and Any Other Terms or)
 Conditions Necessary)
 (Includes Small Power Producers)
 as Defined in 16 United States)
 Code 796, as Amended))

CERTIFICATE OF SERVICE

This is to certify that I have caused to be served this day one copy of the **SOUTH CAROLINA SOLAR BUSINESS ALLIANCE, INC.'S THIRD INTERROGATORIES AND REQUESTS FOR PRODUCTION TO DOMINION ENERGY SOUTH CAROLINA, INC.** to the persons named below at the addresses set forth via electronic mail:

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/s/ Jeremy C. Hodges

Jeremy C. Hodges

Columbia, SC
September 18, 2019

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